10-2010

Raspberries

Linda Naeve
Iowa State University, lnaeve@iastate.edu

Gail Nonnecke
Iowa State University, nonnecke@iastate.edu

Enterprise Budget:

Raspberries

Raspberries are a favorite among consumers. This sweet fruit has become increasingly popular in the last decade with the United States as the world's third largest producer. Washington, California, and Oregon are the leading producers in this country, but raspberries are suitable to grow in Iowa. Raspberry harvest begins in the early months of summer and extends into early fall. The first full crop from a raspberry planting will be harvested in the second year after planting. Commercial production of raspberries is a long-term commitment with stands usually lasting 10 years. Careful site and variety selection, soil preparation and irrigation are important in the planning process.

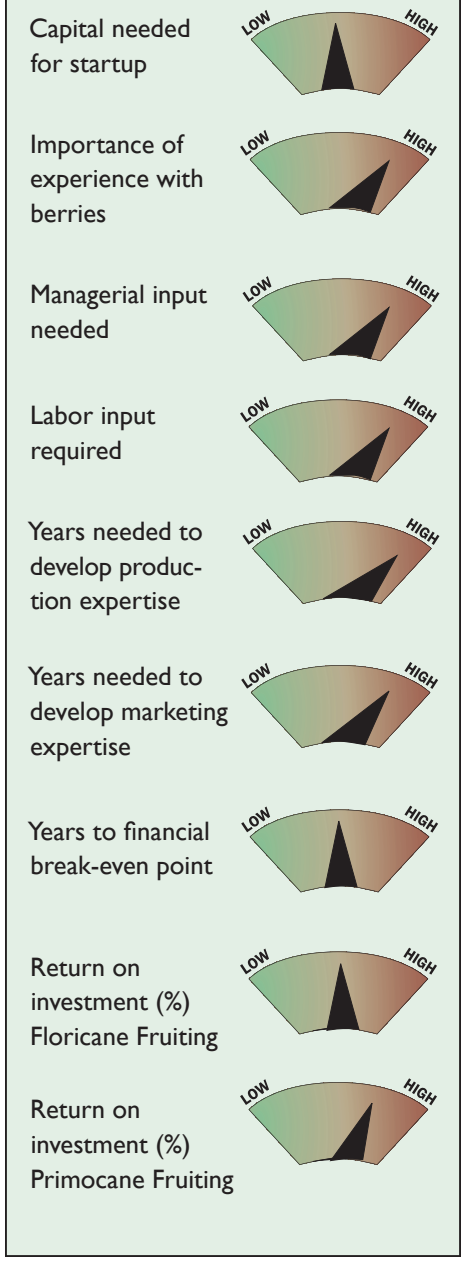
Horticultural Characteristics

Raspberries are bramble fruits in the rose family. Fruits can be black, red, purple, and yellow in color. Raspberries are perennial plants that produce buds on the roots of red and crowns of black raspberries. The canes (or shoots) are biennial. The first-year canes, known as primocanes, are vegetative in floricane-fruiting cultivars. The second year the canes, referred to as floricanes, flower, set fruit, and die.

There are two types of red raspberries. Floricane-fruiting (summer-bearing) red raspberries bear fruit only on the second-year canes in early to mid-summer. Primocane-fruiting (fall-bearing) raspberries produce fruit at the tops of the primocanes in late summer and fall. If left to grow the second year, these canes, now the floricanes, also will bear a somewhat smaller crop on the lower portions that did not fruit in the previous season. Because they can be double-cropped, they are sometimes called "ever-bearing" raspberries. However, commercial growers find it easier to cut the primocanes to the ground after they have produced a fall crop. This makes pruning more efficient and requires less labor. It also is a good management system to reduce disease and insect problems. However, there is risk of an early fall frost destroying a portion of the yield. Cultivar selection and high tunnel production can shift and/or extend the fruiting season. Yellow raspberries, which are a mutation of red raspberries, are typically primocane-fruiting.

Black and purple raspberries (a cross between black and red raspberries) produce fruit only on floricanes. The primocanes of these plants are tipped each summer when they are about 36 to 48 inches tall to encourage branching and increase yields. Since the canes don't all grow at the same rate, this may require going over the planting a few times. The fruit is produced on these canes the following year and these old canes are removed after harvest when they die. In late winter or early spring, the canes, now the floricanes, are thinned to only four or five of the largest most vigorous canes per clump and the lateral branches on these canes are cut back to about 12 inches for black raspberries and 18 inches for purple raspberries. Thus, the floricane-fruiting plants require more labor to maintain. Both the primocane- and floricane-fruiting plants require a sturdy trellis to support the fruit load, improve air movement, and aid in harvest.

Enterprise Assessment



Rasberries

Potential Return

After a raspberry farm has an established crop and market, it will have regular revenues. Berry yields will vary with cultivar, growing season, and cultural maintenance. An average crop from mature raspberries (about four years old) is approximately 4,000 to 5,000 pounds per acre for primocanes and 1,500 to 3,000 for floricane-fruiting cultivars. Prices range from $2.00 to $3.00 per pound depending on the area and considering retail or wholesale prices.

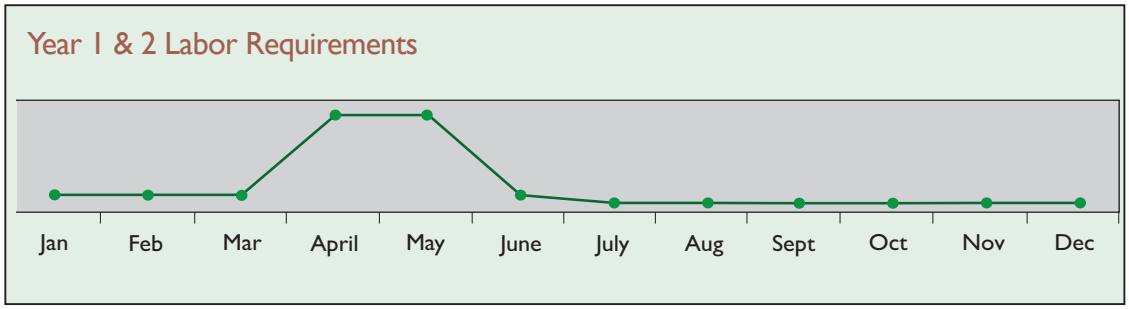
Economic Considerations: Capital Investment Budget

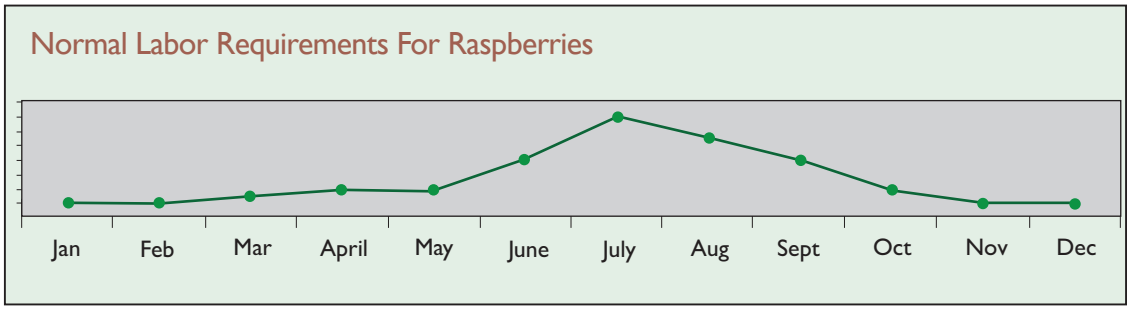
Item	Purchase price	Life	Depreciation/ year	Interest/yr
Storage Buildings	on hand	10		
60 hp tractor	on hand	8		
Disc	on hand	15		
Cultivator & harrow	on hand	15		
Mower	on hand	15		
Sprayer	on hand	15		
Planter	2,500	30	83.33	100
Irrigation pump	1,000	20	50	40
Irrigation Lines	2,500	7	357.14	100
Water source	on hand	20		
Total	**6,000**		**490**	**240**

Note: budget assumes rented land

Risks

Raspberry plots require a relatively long-term commitment of at least 10 years. Most start-up raspberry enterprises will not have significant revenue until the end of the second year. Late spring or early fall freezes can reduce yields, as well as winter-kill or dieback on floricanes. Inadequate moisture, especially during fruiting, will result in smaller, inferior berries.





If not immediately refrigerated, raspberry fruit spoils within 24-48 hours of picking. Berries are fragile, so grade in the field and package in marketing containers during picking to save labor and reduce additional handling. Refrigerated storage is required to maintain quality and shelf life of the fruit.

Some producers are using high tunnels to reduce risk of disease and extend the growing season. High tunnels are simple greenhouse-like structures that are typically covered with clear 6-mil plastic. They are passively heated and ventilated. With an extended growing season, producers can take advantage of high market prices early and late in the season. Research at Iowa State University has shown that high tunnel bramble production results in high yields of quality fruit earlier and later than field-produced raspberries. A report on this project can be found at: http://www.leopold.iastate.edu/research/marketing_files/Bramble_2008.pdf. Cornell University also has a very helpful high tunnel production guide on their web site at: http://www.fruit.cornell.edu/Berries/bramblepdf/high_tunnel_production_guide.pdf.

Marketing

Raspberries in Iowa are typically sold direct to the consumer. These markets

Raspberries

include: pick-your-own (PYO), farm gate sales, roadside stands, farmers' markets and cooperatives. PYO operations allow customers to pick their own berries for a price per unit (pound or pint). Other retail sales require producers to pick and prepare raspberries that are sold directly to consumers through a retail outlet located on the farm, at farmers' markets, and to Community Supported Agriculture (CSA) subscribers. Producers can also form a cooperative with other growers to help in marketing products.

Pick-your-own markets reduce harvesting, shipping, and storage costs while giving producers the ability to develop a loyal customer base. Farm gate sales allow producers to sell produce without having to incur transportation costs. Farmers' markets have collective advertising and an established customer base. These markets will help with business exposure and provide an additional market for berries not sold in the PYO, CSA or farm gate markets. However, producers must pick, package, and transport produce to farmers' markets where there is competition from other producers.

Note: Pricing for each of these market segments is different. Farmers' markets and CSAs will receive the highest price followed by farm gate sales, PYO, and wholesale, respectively.

Raspberry Enterprise Budget (per acre)

YEAR	1	2	3	4	5	6+
Revenue						
Yield	0	0	1750	2630	4500	5000
Lbs @ $2 (wholesale)	0	0	2905	4365.8	7470	8300
Variable Costs						
Labor Hours	120	208	224	240	240	240
at $11/hr.	1320	2288	2464	2640	2640	2640
Fertilizer	0	45	45	45	45	45
Insecticide/ herbicide/ pesticide	0	49	55	55	55	55
Containers	0	0	100	175	200	200
Mach operating costs	205	205	205	205	205	205
Trellis	0	0	300	0	0	0
Miscellaneous	20	20	20	20	20	20
Operating Interest	54	94	126	121	121	121
Total Variable Costs	**1599**	**2701**	**3315**	**3261**	**3286**	**3286**
Operating Margin	-1599	-2701	-410	1104.8	4184	5014
Fixed Costs						
Plants	0	640	0	0	0	0
Cash Rent	150	150	150	150	150	150
Depreciation expense	490	490	490	490	490	490
Interest on capital invest.	240	240	240	240	240	240
Total Fixed Costs	**880**	**1520**	**880**	**880**	**880**	**880**
Total Cost	**2479**	**4221**	**4195**	**4141**	**4166**	**4166**
Profit/return to mgmt/net income	**-2479**	**-4221**	**-1290**	**224.8**	**3304**	**4134**

Management

Detailed information regarding raspberry management and production can be found in a publication from the Natural Resource, Agriculture and Engineering Service at Cornell University: "Raspberry and Blackberry Production Guide for the Northeast, Midwest, and Eastern Canada," NRAES-35. 2008. This publication is available online at: http://www.nraes.org/nra_order.taf?_function=detail&pr_id=171 or from

NRAES Cooperative Extension
PO Box 4557
Ithaca, NY 14852-4557
Phone: (607) 255-7654

Market Outlook

Raspberries are a popular fruit and tend to sustain demand during higher price periods. Every local market is unique, however, so market research is a must for potential producers.

Raspberries

Sources

Iowa State University:

Iowa Vegetable Production, pm 2017

Budgets www.extension.iastate.edu/Publications/pm2017.pdf

learningstore.uwex.edu/pdf/A1610.pdf

www.leopold.iastate.edu/pubs-and-papers/2009-01-high-tunnel-bramble production-2008

Midwest Small Fruit and Grape Spray Guide 2010, Pm-1375 https://www.extension.iastate.edu/store/ItemDetail.aspx?ProductID=4796&SeriesCode=&CategoryID=52&Keyword=

Midwest Small Fruit Pest Management Handbook, B 0861

https://www.extension.iastate.edu/store/ItemDetail.aspx?ProductID=940&SeriesCode=&CategoryID

Selling Fruits and Vegetables, pm 1887

https://www.extension.iastate.edu/store/ItemDetail.aspx?ProductID=5477&SeriesCode=&CategoryID=52&Keyword=

Agricultural Marketing Resource Center

http://www.agmrc.org/commodities__products/fruits/raspberries.cfm

Cornell University- High Tunnel Production Guide

http://www.fruit.cornell.edu/Berries/bramblepdf/high_tunnel_production_guide.pdf

www.hort.cornell.edu/grower/nybga/.../greenhouseraspberries.pdf

Prepared by Linda Naeve, Value Added Agriculture, ISU Extension, and Gail Nonnecke, ISU Department of Horticulture. Designed by Tina Davis, ISU graphics design student. Financial support from the Leopold Center for Sustainable Agriculture.

October 2010 BFC 22

LEOPOLD CENTER

Beginning Farmer Center